Applicant:	Tresser et al.	**Conf. No.:**	9978
Serial No.:	09/864,015	**Art Unit:**	3693
Filing Date:	05/23/2001	**Examiner:**	Lemieux, Jessica
		Docket No.:	CHA920010005US1 (IBMC-0016)

Title: FAIR AND SCALABLE TRADING SYSTEM AND METHOD

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. 1.131

I, an Applicant in the above-identified patent application, declare as follows:

1. That I am a co-inventor of the subject matter described and claimed in the above-identified patent application.

2. That prior to 09-05-2000 we conceived of a system for implementing an electronic marketplace via a network, comprising: a market maker that receives orders for a series of call auctions from a plurality of nodes in the network, wherein each of the orders received by the market maker includes a time stamp from one of a plurality of agents residing within the network indicating a time that is subsequent to the order being placed by a participant and precedes the order being received by the market

09/864,015

maker, and wherein each call auction is implemented at an end of a trading interval; a trading system that sets prices and processes orders for each call auction; and a time analysis system that examines each order submitted during a current trading interval to determine if the submitted order qualifies for the call auction at the end of the current trading interval based on the time stamp associated with the submitted order.

3. That prior to 09-05-2000 we conceived of a program product stored on a recordable medium for implementing an electronic marketplace via a network, comprising: means for receiving orders for a series of call auctions via a plurality of nodes in the network, wherein each of the orders received by the electronic marketplace includes a time stamp from one of a plurality of agents residing within the network indicating a time that is subsequent to the order being placed by a participant and precedes the order being received by the receiving means, and wherein each call auction is implemented at an end of a trading interval; means for setting prices and processing orders for each call auction; and means for examining timing information for each order submitted during a current trading interval to determine if the submitted order qualifies for the call auction at the end of the current trading interval.

4. That prior to 09-05-2000 we conceived of an electronic exchange implemented over a network that processes a series of call auctions, each call auction occurring at an end of a trading interval, comprising: a plurality of network nodes that communicate market information, wherein the market information includes orders submitted from market participants; a plurality of gateway agents that timestamp orders after they are submitted to a gateway agent and before they are submitted by the market participants to the network; and a market maker system that receives and

09/864,015

executes orders over the network, wherein the market maker system determines if each order qualifies for the call auction at the end of a current trading interval by examining a time stamp for the order.

5. That prior to 09-05-2000 we conceived of a method of implementing an electronic exchange over a network, wherein the exchange executes a series of call auctions during sequential trading intervals, comprising the steps of: broadcasting a price quote from a market maker over the network at a beginning of a current trading interval; distributing the price quote over a plurality of network nodes within the network; receiving an order submitted from a participant who is in communication with one of the network nodes; time stamping the order when the order passes through a trusted node; delivering the order to the market maker, wherein a time stamp associated with the order is subsequent to a time the order is submitted by the participant and precedes a time at which the order is received by the market maker; and examining the time stamp of the order at the electronic exchange to determine if the order qualifies for processing during the current trading interval.

6. That prior to 09-05-2000 we conceived of a method for implementing an electronic exchange over a network, wherein the electronic exchange executes a series of auctions at sequential time points, comprising the steps of: broadcasting a price quote at a beginning of a trading interval; receiving an order, wherein the order includes a time stamp received from a network agent that precedes a time the order is received and is subsequent to the order being placed by a participant; comparing the timestamp with a first predetermined time set during the trading interval; comparing a time the order was received with a second predetermined time set during the current trading

interval; and qualifying the order if both the time stamp is less than the first predetermined time and the time the order was received is less than the second predetermined time.

7. That the present invention is described in a Disclosure of Invention (Exhibit "A") submitted to the IBM Corporation Patent Department on 03-20-2000.

8. That, subsequent to the conception of the invention, and up until the patent application filing date of 05-23-2001, we diligently and actively assisted the IBM Corporation Patent Department in the planning, preparation, review, and filing of the above-identified patent application.

09/864,015

Declarant further states that the above statements were made with the knowledge that willful false statements and the like are punishable by fine and/or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that any such willful false statement may jeopardize the validity of this application or any patent resulting therefrom.

Date:

Daniel E. Sturman

09/864,015

Disclosure CHA8-2000-0005

Prepared for and/or by an IBM Attorney - IBM Confidential

Created By: Charles Tresser   **Created On:** 03/20/2000 12:21:51 PM
Last Modified By: James Palmer   **Last Modified On:** 03/30/2001 10:48:54 AM

Required fields are marked with the asterisk (*) and must be filled in to complete the form.

*Title of disclosure (in English)
FAIR AND SCALABLE TRADING

Summary

Status	Final Decision (File)
Docket Family	CHA9-2001-0005
Processing Location	CHA
Functional Area	Financial Services Sector (Cole) Div 91
Attorney/Patent Professional	Douglas A Lashmit/White Plains/IBM
IDT Team	Emily Plachy/Somers/IBM; Douglas W Cameron/Watson/IBM
Submitted Date	03/20/2000 12:28:06 PM EST
Owning Division	SDG
Incentive Program	
Lab	
Technology Code	
PVT Score	No PVT score has been calculated.To calculate a PVT score, press the 'Calculate' button.

Inventors with Lotus Notes IDs
Inventors: Charles Tresser/Watson/IBM, Daniel Sturman/Watson/IBM

Inventor Name	Inventor Serial	Div/Dept	Inventor Phone	Manager Name
> Tresser, Charles P.	508807	91/3G8A	N/A	Greengard, Claude A.
Sturman, Daniel C.	893196	22/W0YD		Chandra, Tushar

> denotes **primary contact**

Inventors without Lotus Notes IDs

IDT Selection
Select Functional Area

IDT Team:	Attorney/Patent Professional:
Emily Plachy/Somers/IBM	Douglas A Lashmit/White Plains/IBM
Douglas W Cameron/Watson/IBM	

Response Due to IP&L : 04/27/2000

*Main Idea
To view the main idea for this disclosure, click on this doclink --->

*Critical Questions (Questions 1-9 must be answered)

*Question 1

including figures inline as appropriate)?

SUMMARY OF THE INVENTION

It is therefore the object of the present invention to disclose a method to offer trade on the www which is at the same time fair to all participants, and also considerably more scalable than trading based on real time price adjustment. Yet this trading method is dynamic enough so that the market could reflect the vitality of the evolution of offer and demand on the securities which would be offered by market makers using the invention.

An implementation of the invention will be determined by two time intervals, $t0>t1$; for convenience, we will set $t2 = t0-t1$. For a given security $S0$, the time of pricing and execution will be a discrete sequence $T(i)$, $T(i+1)$, $T(i+2)$, where for any j,

$$T(j+1)-T(j)= t0.$$

Notice that a simple modification consists in letting $t0$ be variable instead of constant, to compensate for possible changes in the rate of transactions, in particular predictable ones such as corresponding to daily rhythms or other calendar linked rhythms.

Depending on choice, the series can run forever (7/24

trading) or can be reinitialized every day or on some special set of circumstances.

At any time, or only after T(i-1) (depending on the rules imposed for the security S0 by the market maker), anyone trading on S0 can enter new orders participating to the auction at time T(i). These can be a simple orders, limit orders, execute or cancel orders, or any of a variety of orders used on traditional markets. Orders for the time T(i) auction on S0 are considered only if they are entered before T(i)-t2, as guarantied by a form of time stamping acknowledged by the market maker, and compatible with basic fairness principles and regulations (regulations may vary depending both on the country from which the market maker operates, and the country in which the customer operates). The authorities which may provide such time stamping would be for instance some widely geographically distributed gateways to the network used for the security at hand. At time T(i), the new price P(S0,T(i)) of the security S0 is fixed according to some well established (and preferably or by law, easily publicly available) auction rule: for instance, the price may be chosen to maximize the money volume of transactions, or to maximize the number of orders which can be traded at that price at that time.

The new price is then made public and all orders compatible with $P(S0, T(i))$ which were time stamped before $T(i)-t2$, have reached the market maker by $T(i)$, and not canceled by then, are executed.

Internet Service Providers (ISPs) may offer several forms of contracts to the bidder. For instance, for the cheaper price, the customer would take the risk that his/her order does not arrive to the market maker by $T(i)$, while for the higher price, the provider would guaranty either $P(S0,T(i+1))$ or the best of the prices $P(S0, T(i))$, $P(S0, T(i+1))$,..., $P(S0, T(i+n))$, where $P(S0, T(i+n))$ is the time by which the order reaches the market maker whenever the order is time stamped by $T(i)-t2$.

3. If the same advantage or problem has been identified by others (inside/outside IBM), how have those others solved it and does your solution differ and why is it better?
N/A

4. If the invention is implemented in a product or prototype, include technical details, purpose, disclosure details to others and the date of that implementation.
N/A